

REMARKS

This paper is in response to the Office Action dated October 21, 2008. The formerly pending claims have been canceled and replaced with new Claims 41 to 62. Discussion of the support for these claims is provided below. No new matter is added by the amendments. As such, Applicants respectfully request the entry of the amendments and reconsideration of the application in view of the above amendments and the following remarks.

Support for New Claims

New Claim 41 has been added to describe a heat-resistant label. The description that “the heat-resistant label is laminated in the order of a label base layer, a first support, and a sticking layer” of Claim 41 is supported, for example, by the following descriptions. The present specification discloses on page 17, lines 17 to 20 that “the heat-resistant label 1 has a sticking layer, which is made of a hardened coating film comprising the silicone resin(A) and polymetallocarbosilane resin (B-1), on one side (sticking side) of the support.” Further, the specification discloses on page 18, lines 3 to 5 that “the heat-resistant label 1 can be provided with a heat-resistant label base layer on the other side (display side) of the support, on which no sticking layer is provided”. As this is clear from these descriptions, the heat-resistant label can be laminated in the order of the label base layer, first support, and sticking layer.

The description of the heat-resistant label as being “label for metal attachment” in Claim 41 is supported, for example, on page 30, line 35 to page 31, line 5 of the specification in which metal products are disclosed as the products having the heat-resistant label of the present invention attached.

The limitation that the label base layer is a cured coating film obtained by applying a composition comprising a reactive silicone resin and a polymetallocarbosilane resin at a weight ratio of about 1:9 to about 9:1, and curing the composition in Claim 41 is based on the description of Original Claim 22, and page 9, line 34 to page 10, line 5 of the specification.

The limitation of a “reactive silicone resin (A)” in a composition for producing a cured coating film is supported by the following descriptions. The description on page 15, lines 27 to 30: “the label base layer is formed by applying the composition of the invention to one side of the support, and drying the applied composition at a temperature at which the resins in the composition are crosslinked in such a manner as to form a cured coating film”. The description

on page 16 lines 7 to 13: "crosslinking of the resins in the composition may occur ... the sticking function is maintained even under high temperature conditions." As is clear from these descriptions, the silicone resin (A) has reactivity.

The limitation of the first support being a metal foil in Claim 41 is supported by, for example, the description on page 18, lines 8 to 10 of the specification.

The limitation of metal of the polymetallocarbosilane resin to at least one metal selected from the group consisting of titanium, zirconium, molybdenum, and chromium is supported, for example, by the description on page 9, lines 20 to 24 of the specification.

New Claims 42 to 52 have been added to define the features of Claim 41 in further detail. Claims 42 to 52 are supported, for example, by original Claims 4, 6, 7, 9, 10, 16, 18, 19, 24, etc.

New Claim 53 has been added to describe the temperature conditions for use of the label. Claim 53 is supported, for example, by the description on page 15, lines 17 to 19 of the specification.

New Claim 54 has been added to describe a method of producing a heat-resistant label. Claim 54 is based on original Claim 29, and Claim 54 is supported, for example, by the same description as that of Claim 41 above.

New Claim 55 has been added to describe a condition of the method of Claim 54 in detail. Claim 55 is based on Original Claim 27.

New Claim 56 has been added to describe a heat-resistant label. The limitation that "the heat-resistant label is laminated in the order of a label base layer, the second support, and an adhering metal foil layer" to Claim 56 is supported by the following descriptions. For example, the present specification discloses on page 25, lines 30 to 33 that the heat-resistant label has an adhering metal foil layer on an adhering side of the support, and can be provided with a heat-resistant label base layer on the other side (display side). Therefore, it is clear that the heat-resistant label is laminated in the order of the label base layer, second support, and adhering metal foil layer.

The limitation in Claim 56 that the label base layer is a cured coating film obtained by applying a composition comprising a silicone resin and a polymetallocarbosilane resin at a weight ratio of about 1:9 to about 9:1, and curing the composition, is based on the descriptions of original Claim 37, and , for example, page 9, line 34 to page 10, line 5 of the specification.

The limitation in Claim 56 that the second support can be a metal foil is supported, for example, by the description on page 22, lines 11 to 13 of the specification.

Support for the heat-resistant label of Claim 56 used at 670°C or more (page 21, lines 27 to 34 of the specification) is as follows. The specification discloses on page 22, lines 11 to 13 that "a film-like material which does not melt within the temperature range desirable for the label is usable for the support of the heat-resistant label 2". Therefore, it is obvious that the metal foil of the second support has a heat resistance at a temperature of 670°C or more.

The limitation of Claim 56 to the heat-resistant label with attachment temperature of 670°C to 1100°C is supported, for example, by the description on page 21, lines 27 to 34.

The limitation of Claim 56 to the metal of the polymetallocarbosilane resin being at least one metal selected from the group consisting of titanium, zirconium, molybdenum, and chromium is based on the same descriptions as for Claim 41.

New Claims 57 to 62 have been added to describe the heat-resistant label of Claim 56 in detail. Claims 57 to 62 are based on original Claims 6, 10, 32, 33, 34, 38, etc.

As described above, these amendments are within the scope of the disclosure of the specification originally filed, and do not introduce new matter.

Declaration under 37 C.F.R. Section 1.132

The Applicant has attached a Declaration under 37 C.F.R. Section 1.132 to provide experimental results of the heat-resistant labels of the present invention.

Mr. Kenji Takehisa, a citizen of Japan, who is familiar with the subject matter of the Applicant's application carried out a comparative examination between the label of the present invention and the label equivalent to that of Japanese Unexamined Patent Publication No. 2000-098899, and evaluated each label for stability. The results of the comparative examination are attached herewith in the "Experiment" section within the Declaration. As can be seen from the examination and Test Examples 1 to 3 in the Declaration, the label of the present invention has the following remarkable effects: peeling and cracking of the label base layer at high temperatures are minimized, and further, the label base layer does not easily adhere to an attaching machine (does not peel off easily at the time of attachment) when high-temperature attachment is conducted using a label attaching machine.

Discussion of Claim Objections

The Office Action stated that Claims 7, 9, 18, 22, and 28-29 are objected to because of various informalities. However, Applicant has cancelled Claims 7, 9, 18, 22, and 28-29 containing the above informalities. None of the informalities appear in the new claims. Therefore, the claim objections are now moot.

Discussion of Rejection Under 35 U.S.C. § 112

The Office Action rejected Claim 21 under 35 USC §112, second paragraph. Claim 21 recited the limitation “the label base layer” in line 1 without an antecedent basis for the limitation. However, Applicant has cancelled Claim 21. Thus, the rejection under 35 USC §112 highlighted in the Office Action is now moot.

Discussion of Rejections over Prior Art

The Office Action rejected Claims 1-3, 5-12, 14-21, 23-27 and 30 under 35 U.S.C. § 102 (b) as being anticipated by Japanese Patent Application No. JP 2000-098899, hereinafter “JP899,” and also rejected Claim 4 as obvious over JP899. The Office Action further rejected Claims 1-11 under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent Application No. US 4,929,507 to Nishihara, hereinafter “Nishihara.” The Applicants have cancelled all of these claims. Accordingly, the patentability of the new claims over both JP899 and Nishihara is discussed below.

Discussion of the invention with reference to JP899 and Nishihara

The heat-resistant label defined in Claims 41 and the heat-resistant label defined in Claims 56 of the present invention have the following features in common:

1. Having at least three layers including a label base layer, a support, and a sticking layer (or an adhering metal foil layer) laminated in this order; and
2. The label base layer being a cured coating film obtained by applying to a display side of the first support a composition for a label base layer and heating the composition; the composition comprising a reactive silicone resin (A), a polymetallocarbosilane resin (B-1), and a solvent (C); and the weight ratio of the reactive silicone resin (A) to the polymetallocarbosilane resin (b-1) being about 1:9 to about 9:1. With this configuration, the heat-resistant label of Claim 41 has an extremely stable label base layer at 300°C or more, and the heat-resistant label

of Claim 56 has an extremely stable label base layer at a high temperature of 670°C or more. That is, the label of the present invention has the following remarkable effects: peeling and cracking of the label base layer at high temperatures are minimized, and further, the label base layer does not easily adhere to an attaching machine (does not peel off easily at the time of attachment) when high-temperature attachment is conducted using a label attaching machine. The effects of the present label are clear from the results of the appearance and scratch resistance tests of Examples 1 to 3 (Tables 5, 6, 13, 14, 22, and 23) enclosed within the Declaration.

JP899 discloses a heat-resistant label in which a silicone resin and a polymetallocarbosilane resin are used for a label base layer. The label of JP899 does not include a support, and has a two-layer structure in which an adhesive is attached to the label base. JP899 emphasizes in paragraph [0036] that the label base rapidly deteriorates when more than 0.5 wt% of the component C (polymetallocarbosilane) is contained in a resin solution. Further, Table 2 of JP899 shows an example containing 10 wt% of polytitanocarbosilane (Comparative Example 2). The results of the heat-resistance test conducted at 600°C for one hour (paragraph 0072) revealed that the Comparative Example 2 was rated "X" (peeled off) in appearance. Further, JP899 does not disclose curing the label base layer (label base).

Nishihara discloses a heat-resistant paint comprising a dispersion or solution of a polymetallocarbosilane, an inorganic filter and a silicone resin in an organic solvent. Nishihara does not disclose a heat-resistant label. Examples of Nishihara illustrate that the composition shows good adhesion to the metallic substrate even after the coated steel sheet is heated in an oven at 1,000°C.

In contrast, the heat-resistant label of the present invention comprises a support made of a metal foil that is provided with the label base layer obtained by curing a composition comprising a silicone resin and a polymetallocarbosilane resin at a weight ratio of about 1:9 to about 9:1. The present invention further differs from the heat-resistant label of JP899 in that the label base layer is cured and a support made of a metal foil is used. Accordingly, the present invention is not the same as that of JP899.

Additionally, neither of the cited references disclose or suggest the idea of applying labels at high temperatures of 300°C or more. In view of these many differences from the two cited references, the claimed invention is clearly novel over both of these references.

Moreover, the claimed invention is also nonobvious over the cited references, either individually or in combination. The presently claimed invention provides unexpected results which could in no way have been predicted based on these references. In particular, the unexpected results of the claimed invention over the JP899 reference are shown in the test results of the attached Declaration.

Examination Test 1 shows the results of high temperature attachment of three labels derived from the disclosure of JP899 and a label prepared in accordance with the claimed invention. The Test reveals that the three labels derived from the disclosure of JP899 included a label base layer that remained attached to an attaching machine at the time of high temperature label attachment. Thus, the bar code could not be read. This reveals that the labels of JP899 could not be applied at high temperatures. In contrast, the label prepared in accordance with the invention did not attach to the attaching machine, and the label base layer was in good condition, free of peeling or cracking. As a result, the bar code on the label of the present invention could be clearly read.

Examination Test 2 reveals that the label of the present invention exhibits extremely excellent heat resistance (stability of the label base layer) even when it is attached at normal temperatures. In contrast, the label of JP899 peels off and cracks in the heat-resistant test in which the label is attached to an aluminum block having an untreated surface, and heated at 600°C for 4 hours. JP899 discloses the results of heat-resistant tests including the test conducted at 600°C. However, as described in the "Discussion" section of the Declaration the test of the present invention was carried out under more severe conditions than that of JP899. Therefore, the label of the present invention exhibits significantly higher heat resistance (stability of the label base layer) even when it is attached at normal temperatures, compared with the label of JP899.

As explained above, the inventions relating to a heat-resistant label of Claim 41 and the inventions relating to a heat-resistant label of Claim 56 are not the same inventions as those described in the references. Further, a skilled artisan cannot easily conceive of the invention having such remarkable effects from the descriptions of the references. Accordingly, the inventions relating to the heat-resistant label of Claim 41 and the heat-resistant label of Claim 56 are both novel and nonobvious over the JP899 reference.

The claimed invention is also nonobvious over the Nishihara reference. As discussed above, and acknowledged by the Examiner, the Nishihara reference discloses a heat-resistant paint and not a “heat-resistant label.” Even if the Nishihara reference were combined with the JP899 reference to produce a heat-resistant label, the presently claimed invention would not be obtained. Those having ordinary skill in the art would have no reason to incorporate a support made of a metal foil that is provided with the label base layer that is not disclosed in either of the references. Moreover, even if one having ordinary skill in the art did incorporate the metal base layer, such a person would have no reason to incorporate a cured coating film obtained by curing the paint of Nishimura as a sticking layer for the heat-resistant label as presently claimed. Thus, these two references would fail to create a *prima facie* showing of obviousness even if combined.

Furthermore, the test results shown in the Declaration show the unexpected results obtained when the claimed invention incorporating the cured coating layer on the metal foil base layer are used. The paint of Nishimura is substantially similar to the label base layer of JP899, and similarly poor results would be expected if any of the examples of the Nishimura composition were substituted for those tested in the Declaration. In any event, the JP899 reference is far closer prior art than the Nishimura reference and the unexpected results conclusively demonstrated over the JP899 reference would apply even more forcefully to the Nishimura reference. As such, the unexpected results shown in the Declaration would rebut any allegation of obviousness based on the JP8999 and/or Nishimura references.

Issuance of the Corresponding Japanese Application

The Applicant would like to note that in a corresponding Japanese application to the present application, a decision to grant a patent was issued after the same amendments as described above were submitted to the Japanese Patent and Trademark Office.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other

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broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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By: _____ /daniel altman/

Daniel E. Altman
Registration No. 34,115
Attorney of Record
Customer No.
(949) 760-0404

6466562
011209